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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/868,401	09/17/2001	Anne Coenraad Hulst	294-101PCT/U	9260

7590

07/19/2002

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EXAMINER

TATE, CHRISTOPHER ROBIN

ART UNIT

PAPER NUMBER

1651

DATE MAILED: 07/19/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
**09/868,401**

Applicant(s)

**Hulst et al.**

Examiner

**Christopher Tate**

Art Unit

**1651**



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on May 24, 2002
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9, 12, 13, 16-18, and 22-39 is/are pending in the application.
- 4a) Of the above, claim(s) 9, 12, 13, and 22-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 16-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 7 6) ☐ Other:

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### **DETAILED ACTION**

Applicant's election with traverse of Group I, claims 1-8 and 16-18, in Paper No. 9 is acknowledged. The traversal is on the ground(s) that the finding in the previous Office action that the special technical feature of the Group I method is taught by the prior art as evidenced by McDonald (US '160) because, among others, McDonald does not teach recovery of a juice stream as claimed. This is not found persuasive because other prior art methods also teach and/or reasonably suggest the broadly defined method as instantly claimed, including the prior art relied upon below and, therefore, no special technical feature exists between Group I and the other inventive Groups.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1-8 and 16-18 are presented for examination on the merits.

### ***Claim Rejections - 35 U.S.C. § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-8 and 16-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claim 1 is rendered vague and indefinite by the phrase "a fiber fraction, which comprises relatively firm tissues, and a juice stream, which comprises soft tissues" (lines 3-4). This phrase contains relative terms which are ambiguous and unclear - e.g., "relatively firm tissues" in relation to what, and "soft tissues" in relation to what (what is the dividing line between "relatively firm" and "soft")? In addition, it appears from the instant specification that "soft tissues" is attempting to define a vegetable plant juice stream in which the juice (containing intrinsic internal cellular components such as chloroplasts) has been separated from the fibrous portion of the plant. However, the phrase "soft tissues" would suggest that soft plant tissues, per se, are present within the juice which does not appear to be the case (please note that the term "tissue" is typically used in the art to define a united aggregation of similar cells, not a plant juice which contains intrinsic internal cellular components such as chloroplasts therein) and, thus, goes against what this phrase implies causing unclarity and confusion as to its meaning.

Claim 4 is rendered vague and indefinite by the phrase "'wherein the vegetable material is fiberized by means of a refiner". This phrase is unclear because a "refiner" is typically used in the art to define a process of preparing a crude substance into a purified product (e.g., refining sugar beet molasses into sugar, etc.). Thus, it is unclear how and why a refiner would be used, per se, in the step of fiberizing the vegetable material - i.e., it would seem that the refining process (e.g., of the fiber fraction and/or juice stream fraction) should occur after the fiberizing step has already taken place.

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Claim 5 is rendered vague and indefinite by the term "hydro(cyclone)" in line 2. The use of parentheses encompassing terminology in the claims is indefinite because it is unclear if what is stated in parentheses is a further limitation or simply alternative meaning.

All other claims depend directly or indirectly from rejected claims and are, therefore, also rejected under U.S.C. 112, second paragraph for the reasons set forth above.

***Claim Rejections - 35 U.S.C. § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 8, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Holdren (US 4,332,125).

A method of separating components from vegetable material comprising at least partially fiberizing the vegetable material, then separating the fiberized material into a fiber fraction and a juice stream fraction is apparently claimed. Dependent claims include the vegetable material being mechanically fiberized, separating the fiber fraction from the juice stream fraction using one of several conventional steps including centrifugation, the vegetable material being a cultivated crop, and the step of recovering at least one nutritional substance therefrom.

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Holdren teaches a method of preparing separating components from vegetable plant material such as cultivated forage crops - e.g., alfalfa and/or various grasses - comprising fiberizing the vegetable material, then separating the fiberized material into a fiber fraction and a juice fraction which includes the step of centrifugation, whereby the juice fraction containing all the natural juice from all of the ruptured plant cells therein (which would inherently and necessarily comprise chloroplasts since chloroplasts are inherently present within such plant cells) is collected in a reservoir. Holdren further discloses that the recovered natural juice fraction contains important nutritional constituents such as protein and sugars (see entire document including abstract; col 1, lines 6-29; col 3, line 5 - col 6, line 17; col 7, line 13 - col 8, line 32; col 9, lines 43-46; and claims).

Therefore, the reference is deemed to anticipate the instant claims above.

Claims 1-5, 7, 8, 16, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Huster et al. (US 3,948,677) or Woodward (GB 2,103,635).

Huster et al. teach a method of separating components from starch-bearing root crops such as potatoes comprising grinding/macerating the roots (which reads on fiberizing and/or partially fiberizing), then separating therefrom via centrifugation a juice fraction containing starch (a carbohydrate) therein (the natural juice fraction would also inherently contain chloroplasts since chloroplasts are inherently present within such root crop cells) and a fiber

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fraction. Huster et al. also disclose further refining/purification of the starch from the starch-containing juice fraction (see, e.g., abstract; col 1, lines 6-16; col 3, lines 1-68; claims).

Woodward teaches a method of separating components from starch-bearing root plants such as potatoes, cassava, yams, taro, etc. via pulverizing/disintegrating the roots (which reads on fiberizing and/or partially fiberizing), then separation therefrom via filtering/screening a juice fraction containing starch (a carbohydrate) therein (the natural juice fraction would also inherently contain chloroplasts since chloroplasts are inherently present within such root crop cells) and a fiber fraction. Woodward also discloses further refining/purification of the starch/starch milk from the starch-containing juice fraction (see, e.g., abstract; figures; page 1, lines 5-13; page 2, lines 21-126; claims).

Therefore, each of the cited references is deemed to anticipate the instant claims above.

Claims 1-5, 7, 8, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Hultsch (US 4,536,288), Brouwer (US 4,203,845), or Sugar Ind. Res. Inst. (SU 424881 - DWPI Abstract), to name a few.

Each of the cited references teach separating a juice fraction (the natural juice fraction would inherently contain chloroplasts since chloroplasts are inherently present within such root crop cells) and a fiber fraction from crushed/squeezed beets (reads on fiberized and/or partially fiberized) via centrifugation (US '288, SU '881), and/or filter screening (US '845, SU '881) - see, e.g., US '288: col 1, line 9- col 3, line 68, claims; US '845: col 1, lines 4-52; SU '881: abstract.

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Therefore, each of the cited references is deemed to anticipate the instant claims above.

***Claim Rejections - 35 U.S.C. § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-6, 8, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holdren (US 4,332,125) in view of Folkerts et al. (WO 9,713,402 - DWPI Abstract) and/or the recognized state of the art.



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The Holdren et al. reference is relied upon for the reasons discussed *supra*. Holdren et al. do not expressly teach using genetically modified grasses such as genetically modified alfalfa.

It is notoriously well known in the crop art to genetically modify (i.e., prepare transgenic) plants including grasses such as alfalfa, or root crops such as potatoes or sugar beets, so as to confer thereto one or more beneficial attributes including enhanced pest-resistance (such as beneficially disclosed by Folkerts et al.), enhanced disease-resistance, and/or enhanced yield of desired edible product.

It would have clearly been obvious to one of ordinary skill in the art at the time the claimed invention was made to employ genetically modified grasses such as alfalfa in the method of Holdren since these types of transgenic plants are notoriously well known in the crop art to display one or more beneficial attributes, including displaying enhanced resistance to pests such as disclosed by Folkerts et al., making them less susceptible to destruction and, thus, allowing higher end-product yield. Accordingly, the use of such beneficial transgenic plants would clearly have been obvious and advantageous to the skilled artisan in practicing the invention disclosed by Holdren. The adjustment of particular conventional working conditions - e.g., further recovering and/or purifying the valuable nutritional components such as sugar and/or protein disclosed by Holdren from such plant grass material - is deemed merely a matter of judicious selection and routine optimization which is well within the purview of the skilled artisan.

Thus, the invention as a whole is *prima facie* obvious, especially in the absence of evidence to the contrary.

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Claims 1-8 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huster et al. (US 3,948,677), Woodward (GB 2,103,635), Hultsch (US 4,536,288), Brouwer (US 4,203,845), and/or Sugar Ind. Res. Inst. (SU 424881 - DWPI Abstract), in view of Folkerts et al. (WO 9,713,402 - DWPI Abstract) and/or the recognized state of the art.

The primary references are relied upon for the reasons discussed *supra*.

It is notoriously well known in the crop art to genetically modify (i.e., prepare transgenic) plants, including root crops such as potatoes or sugar beets, so as to confer thereto one or more beneficial attributes including enhanced pest-resistance (such as beneficially disclosed by Folkerts et al.), enhanced disease-resistance, and/or enhanced yield of desired edible product.

It would have clearly been obvious to one of ordinary skill in the art at the time the claimed invention was made to employ genetically modified root crops such as potatoes and/or sugar beets in the methods disclosed by one or more of the primary references since these types of transgenic root plants are notoriously well known in the crop art to display one or more beneficial attributes, including displaying enhanced resistance to pests such as disclosed by Folkerts et al., making them less susceptible to destruction and, thus, allowing higher end-product yield. Accordingly, the use of such beneficial transgenic plants would clearly have been obvious and advantageous to the skilled artisan in practicing the invention disclosed by one or more of the primary references above. If not expressly taught, the adjustment of particular conventional working conditions - e.g., further recovering/purifying the valuable nutritional

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components such as sugar and/or protein therefrom - is deemed merely a matter of judicious selection and routine optimization which is well within the purview of the skilled artisan.

Thus, the invention as a whole is *prima facie* obvious, especially in the absence of evidence to the contrary.

### Conclusion

No claim is allowed.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Tate whose telephone number is (703) 305-7114. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn, can be reached at (703) 308-4743. The Group receptionist may be reached at (703) 308-0196. The fax number for art unit 1651 is (703) 308-4242.



Christopher R. Tate  
Primary Examiner, Group 1651